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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/11/2003

Geun-Yong Park

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EXAMINER

PHAM, HAI CHI

ART UNIT

PAPER NUMBER

2861

DATE MAILED: 11/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/659,431

Applicant(s)

PARK, GEUN-YONG

Examiner

Hai C. Pham

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 and 28-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 25, 26 and 28-34 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 11-14, 16, 21 and 22 is/are rejected.
- 7) ☒ Claim(s) 5, 7-10, 15, 17-20, 23 and 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

FINAL REJECTION

Claim Objections

1. Claim 1 is objected to because of the following informalities:
 - It is suggested to rewrite the following limitation at line 3 "a plurality of laser scan units having a window on a front surface thereof through which laser beams are emitted" as follows: --a plurality of laser scan units each having a window on a front surface thereof through which a corresponding laser beam is emitted-- since the recited limitation could be misleadingly interpreted as comprising a plurality of laser scan units having a *common* window through which *all* the laser beams are emitted;
 - Line 8, " to position the laser beams from the laser scan units to be parallel" should read --to position the laser beams from the respective laser scan units to be parallel--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-2, 6, 11-12, 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Okugawa et al. (U.S. 6,600,504).

Okugawa et al. discloses an image forming apparatus containing a plurality of laser scan unit assemblies (30y, 30M, 30C, 30K) enclosed in a printer body (Fig. 1), each of the laser scan units having a window (34, Fig. 2) on a front surface thereof through which a corresponding laser beam is emitted, a hinge portion (shaft 603) provided at a first side of the laser scan unit to pivotably dispose the laser scan unit on the printer body, and an adjusting portion (driving screw 609) on a second side of the laser scan unit opposite to the first side to adjust an amount the laser scan unit pivots to position the laser beams from the respective laser scan units to be parallel (when the screw 609 is driven to rotate, the frame body 604 of the laser scan unit 30 rotates around shaft 603 so as to adjust an inclination of each of the laser beams in the main scanning direction as well as an inclination of the main scanning line on the surface to be scanned such that all the main scanning lines are parallel with the main scanning direction) (see Embodiment 4 and related discussions starting at col. 16,

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line 60) (see also col. 6, lines 14-22 for the adjustment of the inclination of the laser beams).

With regard to claim 11, Okugawa et al. teaches the image forming apparatus containing a plurality of laser scan unit assemblies (30y, 30M, 30C, 30K) enclosed in a printer body (Fig. 1), a photosensitive body (belt-shaped photoreceptor 1) on which an image is formed by the plurality of laser beams, a developing apparatus (4) to develop the image formed on the photosensitive body and to transfer the developed image onto a paper (recording sheet P), a paper convey apparatus (roller pair 23) to convey the paper to the developing apparatus.

Okugawa et al. further teaches:

- the printer body (e.g., supporting member 600 of the printer) has a hinge supporting portion (lifted portions 601 and 602) provided thereon to support rotation of the hinge portion (shaft 603),
- the adjusting portion comprises a first adjusting unit (engagement flares 607 and 608) provided on the second side of the laser scan unit, and a second adjusting unit (adjusting screw 609 and gear 610) provided on the body.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject

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matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3-4, 13-14, 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okugawa et al. in view of Kim (U.S. 6,046,759).

Okugawa et al. discloses all the basic limitations of the claimed invention including the hinge portion being a hinge shaft (603), which is formed on the same plane as the laser beam, but except for the hinge supporting portion being a groove to support the hinge shaft, and the groove having V-shape, and the resilient member to press the hinge shaft against the groove.

Kim discloses a laser scanner tilt adjusting apparatus for a printer having a laser scan unit provided with guide rollers (120, 130) supported by the elevating blocks (121 and 131) formed with V-shaped grooves (121a and 131a), and corresponding rotary knobs (142 and 143) to press the elevating blocks against the respective guide rollers.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the hinge supporting portion in the form V-shaped groove and respective resilient member in the device of Okugawa et al. as taught by Kim. The motivation for doing so would have been to allow the hinge to pivot freely on the groove without being deviated or dislocated to the outside of the printer frame.

Allowable Subject Matter

6. Claims 25-26 and 28-34 are allowed.

7. Claims 5, 7-10, 15, 17-20 and 23-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. Applicant's arguments filed 09/13/05 have been fully considered but they are not persuasive.

Applicant argues that Okugawa fails to teach or suggest "adjusting the laser scan units to position laser beams from said laser scan units to be parallel". The examiner respectfully disagrees. Okugawa teaches an adjustment of the tilt of the plural exposure units by rotating the exposure units around the hinge formed by the supporting shaft such that an inclination of the laser beams emitted from the plural exposure units with respect to the main scanning direction is adjusted to ensure that a plurality of patterns are written in parallel with the main scanning direction. The supporting shaft should remain parallel to the optical axis of the scanning optical system during the tilt adjustment such that the scanning laser beams are not deviated in the sub-scanning direction. Applicant has correctly pointed to the critical paragraph at col. 6, lines 14-22 of Okugawa where such teaching is disclosed but, apparently, Applicant is confused in interpreting that only the supporting shaft is parallel to the optical axis but not the laser beams becoming themselves parallel to each other due to the tilt adjustment.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C. Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on (571) 272-1934. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HAI PHAM
PRIMARY EXAMINER

November 19, 2005